ORIGINAL

Marshall Magruder
PO Box 1267
Tubac, Arizona 85646
14 June 2013 RECEIVED

0000146092

Arizona Corporation Commission   2013 JUN 17 A 10: 24   Arizona Corporation Commission
1200 West Washington Street   **DOCKETED**
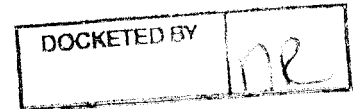**Phoenix, Arizona 85007**   AZ CORP COMMISSION
                                                                        DOCKET CONTROL   JUN 17 2013

Re: ACC Docket No. E-0000C-11-0328

DOCKETED BY

Subject: Supplemental Comments on Smart Meter Guidelines

Ref: (a) My ltr to Steven Olea, ACC Utilities Director, same subject, 15 March 2012
     (b) Arizona Administrative Code Section R14-2-209, Meter Reading

1. **Background**. This is a follow up to my original letter on this subject, Ref (a), copy attached. These initial comments, over a year old, still reflect my concerns on this issue. I would like to stress again, that a <u>statewide Smart Meter "data integration"</u> program be implemented for ALL utilities including electric, water, wastewater, natural gas, and communications without any differences in meter reading processes and fee structures.

2. **Two Op-out Plans**. This letter presents a possible way to establish costs for a fair and reasonable "op-out" program, if the Commission decides that approach. Two forms of Smart Meter Opt-Out plans are proposed as follows:

   a. **Utility-Read Analog Meter Plan**. In this case, each month, the utility will read the analog meter, as described in Ref (b), et al, without any process changes.

   b. **Customer-Read Analog Meter Plan**. A.A.C. § R14-2-209.A requires, a customer who agrees read its meter, will submit the monthly readings to the utility. The rules require the utility to also read the meter, once every six months. If the customer does not send the pre-paid postcard or use another reporting method, the utility can then change meter reading to the Utility-Read Analog Meter plan.

3. **Cost Differences for these Two Opt-Out Plans**. Three cost factors for meter reading include transportation, labor, and data processing costs. They are discussed in terms of a Baseline from analog utility meter reading shown in the table below. Costs are in terms relative to this Baseline: as about equal (=), near equal or higher (≥), much higher (>>), near Zero (~$0), less than or equal to Baseline (≤), or much less (<<).

   a. **Smart Meter Costs**. The utility's cost will vary if the utility uses a <u>one-way</u> smart meter that transmits upon command, usually to a meter reader in a vehicle nearby. A <u>two-way</u> smart meter transmits data periodically, based on a utility program.

   (1) **Two-Way Smart Meter Reading Cost Factors**. There are no transportation or meter reading costs that have been automated.

(2) **One-Way Smart Meter Reading Cost Factors**. The utility has transportation and labor costs because the meter reader must be close to the meter but usually does not have to leave the vehicle. For each meter, these costs generally rise due to greater distances between meter reads and take extra time (labor).

Because both smart meter types are processed in nearly the same manner, usually automated by the utility, with minor if any cost differences. In general, this approach costs much less than for reading analog meters. The one-way meter may require a meter reader to be nearby thus will incur less cost when compared to Baseline transportation costs and time (pay) because it these are done remotely from the vehicle with actual reading the meter, usually done on the street, not even in the driveway.

b. **Cost for the Two Opt-Out Plans**. The utility will have different meter reading costs for each Opt-Out plan. Compared to Baseline, for a manual analog read, when the utility reads the analog meter, the transportation costs and labor will usually higher since there will be greater distances between Opt-Out customers. Compared to Baseline; however, the data processing costs will be higher than it is before and higher than smart meters because of the much fewer Opt-Out customers which require unique data entries. Further, manual reading many incur more errors due to human entries being required. Thus, we see the following matrix evolving from this discussion:

Meter, Type of Reading / Cost Element	Manual Analog Meter (Present Baseline)	Opt-Out Reading Plans (Retain Analog Meter)		Digital Smart Meters (UTILITY READS)	
		UTILITY READ +	CUSTOMER READ +	One-way	Two-way
Meter Reader Transportation Cost	= Baseline	≥ Baseline Once a month	≥ Baseline (twice annually) = ~$0 (ten months	≤ Baseline	~$0
Meter Reader Labor (time)	= Baseline	≥ Baseline Once a month	≥ Baseline (twice annually) = ~$0 (ten months	≤ Baseline	~$0
Meter Reading Data Processing	= Baseline	>> Baseline	>> Baseline	<< Baseline	<< Baseline
+ = 1. Utility reads at least once every six months, 2. Customer reads monthly and reports readings to utility.					

There are cost differences between the two Opt-Out Analog meter readings, when the Utility-Read and performs all the meter reading when compared to Customer-Read meters. On an annual basis, in general, there will be about two actual onsite meter reads for Customer-Read compared to about twelve onsite monthly reading costs if the Utility-Reads reads all meters. A Customer-Read approach has less than 75% of the meter reader transportation and labor costs if compared to the Utility-Read Opt-Out analog meter costs

c. **Comparing Costs for Smart Meter and Opt-Out Meter Reading**. This table shows in all three cost elements, smart meters should save the utility costs. The relative cost

differences between the digital and analog Opt-Out are in the table. The utility should quantify each cost element for an audit during rate cases.

4. **Conclusions**. There are <u>four different meter-reading plans</u> that the Commission should consider, two cost models for smart meters (these differences are not the subject of this case) and the two cost models to consider for Opt-Out analog meter reading. The Analog meter reading differences depend if the Utility Reads or the Customer Reads, with savings for the later in terms of both transportation and meter reader labor costs.

5. **Recommendations**. The following are recommended if the Commission approves Opt-Out for those who do NOT want digital smart meters:

  a. That there should be two different cost plans for Opt-Out Meter Reading:

    (1) Customer-Read
    (2) Utility-Read.

  b. That the costs for Customer Read be much less, estimate about 75% less for the costs involving meter reader transportation and labor costs, when compared to that for Utility-Read analog meters.

  c. That the data processing costs for both Customer-Read and Utility-Read are estimated about equal or somewhat higher than for those with smart meters.

  d. That the resultant Opt-Out costs be "fair and reasonable" and compared to knowledge Baseline costs.

  e. That an Arizona-wide approach for <u>all utilities</u> to integrate "aggregate" data in order to better understand the actual variable demands and associated factors, <u>in near real time</u>, so that higher reliability can be accomplished for full utility.

<div style="text-align:center">

Respectfully submitted,

Marshall Magruder

Marshall Magruder

</div>

Attachment
Magruder letter to Steven Olea, ACC Director of Utilities, same subject, of 15 March 2012

ATTACHMENT

Marshall Magruder
PO Box 1267
Tubac, Arizona 85646
15 March 2012

Steven Olea, Director Utilities Division
Arizona Corporation Commission
Phoenix, Arizona 85007

RE: ACC Docket No. E-00000C-11-0328

Subj: Comments on Smart Meter Guidelines

Ref: Your letter of 24 February 2012

1. The implementation of new and smart meter technology, its software and analysis
    capabilities are the most innovative and cost effective processes now involving the entire
    energy and associated resources industries. The continual improvements this smart meter
    and associated grid and energy management capabilities must NOT be restricted by
    premature short-term regulations and rules. Your ongoing effort to review this situation is
    important because both privacy and security always remain important for individuals and
    various entities in our state.

2. Your letter implies that customer "op-out" should be allowed for customers to NOT have
    smart meters installed. Unfortunately, such an "op-out" option will have serious
    implementation complications and costs and can easily nullify many of the benefits of smart
    meter technology. In my view, as this technology matures, some initial and *temporary*
    customer "op-out" might be considered as both privacy and security technologies are being
    proven. Ultimately, when the Commission is confident, then ALL customers must be
    included to achieve the benefits necessary for the good of the public.

3. Attached are specific comments on each of the draft "meter guidelines".

4. Answers to the four questions posed in the referent letter follow:

    1. I am not a utility company. My observation indicates they are not being implemented.
    2. As modified herein.
    3. At present, all utilities have been **unsatisfactory** in public education concerning smart
        meters and mostly misconceptions are repeated in letters to editors and talk radio
        shows. **A proactive and aggressive information program is needed statewide.**
    4. Long-term plans, in particular, statewide data integration needs to be implemented for
        ALL UTILITIES at the Commission-level. The same process should be implemented for
        all utilities including electric, water, wastewater, natural gas, and communications.

Respectfully submitted,

Marshall Magruder

Draft Meter Guidelines for all Utilities
(by Marshall Magruder)

These guidelines should be the same for <u>ALL utilities</u> in the state, not just electric.

1. Measurement shall not be specific to any particular appliance or electrical device, unless approved by the Commission for a specific tariff.
2. The utility shall not share energy usage data except with its authorized agent. Individual or aggregate usage data will never be sold.
3. All information transmitted between meters and the utility and between the customer and the utility shall be encrypted and also be password protected using US government approved and recommended standards.
4. Data from each meter shall use specific unique identifiers associated with the customer's meter number and service address to ensure that each customer is billed for his/her own usage.
5. The utility shall not control or shut off individual appliances without customer consent based on an approved ACC tariff.
6. The utility shall shut off utility service per ACC rules. The utility will abide by current regulations with respect to shut-off of service and curtailment in power emergencies.
7. The utility will limit the length of data transmission over a 24-hour period. [This is clear without specific lengths of time and will change as technology matures.]
8. Individual usage data gathered shall be available only to the customer, the utility, and its duly authorized agent. Such data can be used to help the customer make choices that will help keep electric bills to a minimum and for the utility to plan, operate and maintain continuity of cost-effective service for its customers. [This is too restrictive, as such data are very important for the utility to plan, operate and maintain its resources.]
9. The utility shall, in general, use aggregate, anonymous data for system planning, operations and maintenance purposes. [A more realistic statement.]
10. Utility-wide aggregate data by customer rate categories and classes can be made public and may used in rate cases. [New]
11. The Commission will establish a statewide aggregate-data integration plan for each type of utility. [New]